### UNITED STATES DISTRICT COURT SOUTHERN DISTRICT OF NEW YORK

UNITED STATES OF AMERICA,

- V. -

LAWRENCE RAY,

No. 20 Cr. 110 (LJL)

Defendant.

# REPLY MEMORANDUM OF LAW IN SUPPORT OF MOTION TO EXCLUDE THE GOVERNMENT'S PROFFERED EXPERT WITNESSES AND IN OPPOSITION TO THE GOVERNMENT'S MOTION TO EXCLUDE THE DEFENSE'S EXPERTS

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Lawrence Ray respectfully submits this memorandum of law in further support of his motion to exclude the government's proffered expert witnesses ("Mot.," Dkt. No. 263) or, in the alternative, for a *Daubert* hearing at which the government must establish the admissibility of each of its proffered expert opinions.

#### **ARGUMENT**

The government, as the proponent of the expert testimony at issue, bears the burden of establishing the admissibility of its proffered evidence by a preponderance of the evidence. *See United States v. Williams*, 506 F. 3d 151, 160 (2d Cir. 2007). If it fails to carry this burden, the Court—in fulfilling its "gatekeeping" role under the Federal Rules of Evidence and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993)—must exclude such testimony. For the reasons stated in Mr. Ray's motion and below, the government has failed to carry its burden with respect to its proffered expert witnesses.

### I. The Government Has Failed To Establish the Admissibility of Expert Testimony from Andrew Petersohn.

In its motion to preclude the government's proposed historical cell site location information expert, Andrew Petersohn, the defense argued that Mr. Petersohn should not be permitted to testify because the expert notice did not explain his methods or conclusions and the government had not met its burden in showing that any methods or conclusions were reliable under *Daubert* and Rule 702. After the defense submitted its motion, the government turned over 84 pages of "draft" maps created by Mr. Petersohn. These maps, which do not explain Mr. Petersohn's methods, or what he believes the maps represent, raise more questions than they answer. In its opposition to the defense motion ("Opp'n," Dkt. 265), the government also fails to articulate Mr. Petersohn's methods or the basis of his conclusions. Thus, the government's expert

notice remains deficient, and the Court should preclude the expert, or, at the least, order additional disclosures and a *Daubert* hearing.

In the government's response with respect to reliability, it makes no effort to apply the *Daubert* factors to this case, and cites no academic literature, expert reports, or technological articles. Instead, it just asserts unsupported conclusion after unsupported conclusion, some of which appear to be contradicted by its own expert's prior testimony, which the government attached. This Court should not rely on the government's *ipse dixit. See General Elec. Co. v. Joiner*, 522 U.S. 136, 139 (1997) ("[A] district court [is not required] to admit opinion evidence that is connected to existing data only by the ipse dixit of the expert."). It is the government's burden to show that Mr. Petersohn's testimony meets the *Daubert* and Rule 702 factors. It has not met that burden. This Court should, therefore, disregard the government's unsupported assertions and exclude Mr. Petersohn's testimony.

### A. The government still has not adequately explained Mr. Petersohn's methods and conclusions.

In response to the defense's argument that the government provided insufficient information about Mr. Petersohn's methods and conclusions, the government points to his rudimentary draft maps, reiterates without any additional specificity that he will say that he can "reasonably approximate" the location of a phone based on the cell site data, and fails to explain if Mr. Petersohn conducted any drive tests of the relevant cell sites in this case, or performed other validation of his conclusions. The government also provides no additional information about his qualifications. Opp'n 8–11. The Court should, therefore, find that the government's notice is insufficient.

# 1. The draft maps are confusing and only raise more questions about what Mr. Petersohn's opinion will be.

On December 15, 2021, about a week after the defense submitted its *Daubert* motion, the government provided the defense 84 pages of "draft" maps created by Mr. Petersohn. Ex. J. The government now claims that these maps are "quite plain" and that Mr. Petersohn's expert opinion has been "clearly stated." Opp'n 8, 10. This is not correct. The maps are rudimentary, have little verbal explanation of what is depicted, and provide no measurements or method that might explain how Mr. Petersohn decided to draw circles, pie slices, or squares.

The title of each map states that the maps show "cell site locations" utilized on different days. But the maps themselves have shaded areas that are much larger than a cell site location. For example, map number three has two differently-sized shaded circles that cover a 1 to 1½ block radius:



Does Mr. Petersohn intend to opine that the cell phones were within those circles? How did Mr. Petersohn determine the size of these circles? Both circles purport to show AT&T cell site locations, so why is one larger than the other? It is unclear.

The sizes of the circles also don't appear to be uniform across maps. For example, the map at page 13 also presents two circles, but this time the red circle is closer in size to the blue one:



Why? Again, no explanation is provided.

Unexplained, overlapping circles or pie shapes of various sizes are used in numerous of the draft maps. *See, e.g.,* Ex. J at 3, 5, 7, 9, 11, 13, 19, 23, 25, 27, 29, 31, 33, 34, 36 40, 48, 54. Even more puzzling, the map at page 66 has a dotted-line square box:



No explanation is provided. These maps should be excluded.

Alternatively, the Court should order the government to explain in writing what the maps are meant to show, including by explaining the methodology Mr. Petersohn used to create them. *See United States v. Cantoni*, No. 18 Cr. 5672 (ENV) (E.D.N.Y. March 19, 2019); Dkt. 47 at 8 (ordering the government to "supply defendant with a description of the expert's methodology

and how it was applied to the data available here," adding that more than the "name of the method" is necessary).

2. The government has still not explained what Mr. Petersohn believes the definition of "reasonably approximate" is when determining a location based on cell site data.

The government's opposition also does not explain what the maps are meant to show. It reiterates that historical cell site data can be used to "reasonably approximate" location, Opp'n 7, but does not explain what Mr. Petersohn intends to say about the definition of "reasonably approximate" and whether he means to show location by the foot, mile, or city. In the testimony attached to the opposition, Mr. Petersohn testified that he had seen "connections upwards of five miles" in an "extreme" case. Gov't Ex. 3 at 17. What does he plan to say in this case?

The government provides at least three different formulations about the nature of Mr. Petersohn's conclusions, two of which may rely on very general locations and the third that appears to rely on much more specific locations. In one version, it suggests that Mr. Petersohn will only testify about the "movement" of the phone across distances because the cell site data may not show the "exact location but merely corroborates movement between New Jersey . . . and New York City . . . on particular dates." Opp'n 19. In another version, it says that he will testify about a "pattern whereby two cellphones" used by Mr. Ray and Isabella Pollok were "primarily used near Piscataway, New Jersey," and that they "accessed cell sites nearby a third cellphone" on "particular dates." *Id.* 10. And in a third version, it says that his testimony will

The shaded areas seem designed to imply that the phone was within the shaded area. That should also not be permitted. *E.g.*, *Cantoni*, *supra*, Dkt. 71 at 2 (noting that "the government was directed to remove the shaded sectors from its exhibits to avoid any confusion that they might also suggest distance as well as direction" and "clarify that its expert did not form an opinion as to the distance of [the] cell phone from the various cell towers . . . but merely an opinion as to his geographical direction relative to those cell towers").

corroborate a complainant's testimony that she met with "commercial sex clients at various hotels in New York City, and that on numerous occasions she met with" Mr. Ray or Ms. Pollok "at or near her hotel, or near" the home in Piscataway. *Id.* 18. This formulation suggests the testimony will be much more precise than "movement" between New York and New Jersey, or a "pattern" that Mr. Ray and Ms. Pollock "primarily used" their phones near their home.

As explained above, Mr. Petersohn's maps do not merely show movement or a pattern, but appear to display specific geographical locations. The government must be required to explain what Mr. Petersohn is actually planning to say "reasonably approximate" means and how he decided on whatever definition he chose. The Court should preclude him from suggesting that the location data is any more precise than the method he used can reliably show.

### 3. The Court should order the government to provide additional information about the VOLTE technical problem.

The defense also requested that the government provide additional discovery relating to the technical issue that caused Verizon's "VOLTE" call detail records to inaccurately record the originating location of phone calls over a multi-year time period. Mot. 10–12. In response, the government states that it does plan to rely on VOLTE call detail records, but asserts that the discovery "issue is mooted by the manner in which the cell site evidence is being used in this case" because the VOLTE call records it is relying on are "10 minutes or less in duration." Opp'n 11. Citing no supporting authority, it claims that the "difference of less than ten minutes with respect to whether a phone call originated or terminated at a known cell site is immaterial," because "the exact location of the cell site is recorded by Verizon, and the time at which the cell site was accessed by the cellphone is accurate to within ten minutes." *Id*.

It is unclear what the government means or why this is responsive to the argument that more discovery is necessary.<sup>2</sup> The government seems to imply that a person would not move far in 10 minutes, so it is unimportant if the originating cell site location is wrong because the devices would still be "used in close geographic and temporal proximity." *Id.* But a 10-minute trip in New York City could take a cell phone to completely different locations, for example from the Brooklyn Federal Courthouse to the Manhattan one. *See* google.com/maps (noting a trip duration of 7 minutes or 10 minutes by car, depending on the route at approximately 7:30 p.m. on January 3, 2022). This type of geographic distance would surely be material in assessing whether devices were "used in close geographic and temporal proximity."

The government also incorrectly assumes that a cell phone call would only switch the connection between cell towers during a call if "the phone call is long and the person using the phone is traveling by car." Opp'n 11. That is simply wrong. A cell phone may connect to different cell site towers during a call even if the person is stationary, or the call is short. Indeed, the testimony the government attached from Mr. Petersohn conflicts with the government's assertion. In that testimony, Mr. Petersohn was asked: "during a call, if you're in the middle of a call, even if you're not moving, the phone could switch cell sites that it connects to, correct?" and he replied, "Yes, it could" because the "phone is constantly assessing which cell sites will provide it with a best quality signal." Gov't Ex. 3 at 69–70. This is consistent with Mr. Petersohn's maps. For example, in map 7, Mr. Petersohn marked two separate locations for a

Indeed, the government's response raises additional questions by implying that the "the time at which the cell site was accessed" by the cellphone is *only* accurate to within ten minutes and could be inaccurate by up to ten minutes. If true, this is simply another reason why an expert should not be permitted to opine about where a phone is located based on the cell tower. The government should be required to further disclose the data that it is relying on to determine that the "time" is "accurate within ten minutes" and how Mr. Petersohn took this into account.

voice record made from the same phone number at the same time. Ex. J at 7 (reflecting two locations about 5 blocks and one half avenues apart for a voice record at 12:18:34 p.m.).

As nothing in the government's response rebuts the need for additional discovery relating to this technical issue, the Court should order the government to provide the discovery outlined in the defense motion. Mot. 11.

4. The government has not provided adequate information about Mr. Petersohn's qualifications to testify about the location of cell phones based on cell tower data.

The government asserts that Mr. Petersohn's testimony will be based on a "matter of physics and radio frequency engineering," Opp'n 7, but his *curriculum vitae* does not mention either field. His CV also makes no mention of any background or training in forensics analysis relating to cell site location data. The government has not pointed to any courses Mr. Petersohn has taken relating to determining the location of cell phones based on cell towers; he does not appear to have written any peer-reviewed articles on the topic or been involved in any conferences relating to location analysis. The government also has not pointed to any experience Mr. Petersohn has working on cell site networks in New York City. In his testimony attached to the government's opposition, Mr. Petersohn testified that he done no "drive tests" – driving through a cell site area to test how the cell phone companies' towers are working – in New York City. Gov't Ex. 3, at 48. And the drive tests he did in other locations were "not done for the primary purpose or the sole purpose of determining location." *Id.* at 65 (as explained by Judge Rakoff). The government has simply not shown that Mr. Petersohn has relevant qualifications to testify about the historical location of a phone based on cell site data.

#### B. The government has not met its burden in showing reliability.

It is the government's burden to show that its expert meets the requirements of *Daubert* and Rule 702. *See Williams*, 506 F.3d at 160. In the government's opposition, it tries to turn this burden on its head by saying that "none of defendant's arguments supports the conclusion that testimony from the Government's proffered experts is the result of junk science or so speculative or conjectural as to suggest bad faith, and thus do not meet the requirements for exclusion under *Daubert*." Opp'n 7. Mr. Ray does not need to show that the government's expert is working in "bad faith" or using "junk science"; the government needs to show that its proffered expert testimony is reliable under *Daubert* and Rule 702.<sup>3</sup>

In its motion, the defense explained why the government had not shown that Mr. Petersohn's testimony met any of the *Daubert* or Rule 702 factors. In response, the government ignores the *Daubert* factors. It makes no attempt to argue that any theory Mr. Petersohn relies on "has been or can be tested;" that it has "been subjected to peer review;" that it has a "known or potential rate of error and the existence of standards controlling the theory's operation;" or "the extent to which the theory is generally accepted in the relevant community." *Daubert*, 509 U.S. at 597. It makes no mention of the *Daubert* factors in its analysis at all. And, it mentions just two of the Rule 702 factors. Opp'n 15–17 (claiming testimony would be "based on sufficient facts and data" and "product of reliable principles and methods"). This falls woefully short of carrying the government's burden.

The government relies on shifting the burden elsewhere as well, for example, by arguing that "[t]he defendant thus fails to establish any unreliability in the call detail records in this case." Opp'n 14.

1. The government's argument about the reliability of the "facts and data" is based only on data about the location of cell towers, not any facts or data that support using cell tower locations to reliably estimate the location of the cell phone.

The government argues that Mr. Petersohn's testimony is "based on sufficient facts and data" about the "physical locations of the cell sites themselves." Opp'n 13.4 But it completely discounts the errors in the data about the physical location of the cell sites themselves, and, even more crucially, ignores that the data about the location of the cell towers is only half of the picture. Mr. Petersohn is planning to testify that he can determine the *location of the phone* based on the location of the cell towers. But cell phone companies do not keep data on the location of phones based on the location of the towers. Notably, the government provides no explanation of any "facts and data" Mr. Petersohn plans to rely on to show phones' locations based on the data about the locations of cell site towers. For this reason alone, its argument should be rejected.

But the government's argument about the "facts" related to the physical location of cell towers is also misleading and unsupported. The government claims that the "facts and data" underlying Mr. Petersohn's testimony comes from "service providers and are maintained by those companies in order to provide reliable service to customers." Opp'n 13.<sup>5</sup> This is not true: the call detail records that Mr. Petersohn plans to rely on are not maintained to provide reliable service to customers, but for billing. Indeed, Petersohn testified as such: the call detail records

Since the defense filed its motion, the government has provided the defense a copy of the AT&T tower location records, but not a full copy of the Verizon ones.

The government also says that the call detail records ("CDRs") are admissible under Rule 803 (6) as business records. Opp'n 15. Whether or not individual records are hearsay does not advance the government's *Daubert* argument that the records can reliably be used to show the location of a phone. *See also* Fed. R. Evid. 703 (precluding admission of data relied upon by an expert unless helpfulness of such disclosure substantially outweighs prejudicial effect). The defense reserves the right to challenge *in limine* any exhibits the government plans to introduce on hearsay or other grounds that are not related to this *Daubert* motion.

are "recorded in an automated fashion by the provider, and it's done mainly for billing purposes." Gov't Ex. 3 at 13.

The government accuses the defense of "misrepresenting aspects of the academic literature," by referencing two peer-review articles by defense expert John B. Minor, one of which highlighted errors in data about where cell towers are located and the other of which proposed a validation and error mitigation strategy for cell site location data. Opp'n 13. It is not clear what the government believes was misrepresented. The government cites no academic literature or any other articles, affidavits, or testimony contradicting Mr. Minor's two peer-reviewed articles and his conclusion that cell tower location data has errors.<sup>6</sup>

In one of these articles, Mr. Minor used 11 steps to determine that 40% of the cell site location maps in the dataset he reviewed were inaccurate, including: (1) perform preliminary mapping; (2) validation of the geographic locations of cell sites; (3) drive test / radio survey validation of actual sector coverage extents; (4) topographic analysis for void coverage areas; (5) subscriber aggregating event research; (6) analysis of traffic congestion policies and cellular carrier network infrastructure threshold settings; (7) research of historical weather conditions; (8) analysis of network operations center maintenance logs for planned/unplanned outages; (9) analysis of cellular carrier performance metrics; (10) research of cellular carrier adherence to 3GPP, 3GPP2, ETSI, and IETF operating standards; and (11) production of a final refine accuracy mapping analysis. *See* John B. Minor, *Forensic Cell Site Analysis: A Validation & Error Mitigation Methodology*, 12 J. DIGIT. FORENSICS, SECURITY & L. 33 (2017). The government seizes on one out of the eleven validation steps, which requires a verification that the

In the *Cantoni* matter discussed *supra*, the government cell site data expert agreed in his testimony that "cell phone companies sometimes make mistakes when they are reporting where their towers are." Tr. at 545 (Apr 4, 2019).

cell towers were located in the correct spots, claims that Mr. Petersohn completed this one step, and implies that nothing further was necessary. Opp'n 14. The government provides no report, notes, screen shoots, or affidavit to back up this assertion. Instead, it says that Mr. Petersohn will testify that he has "never looked for a cell site on a provider list and been unable to find it." Opp'n 14. Anecdotal experience and *ipse dixit* is the opposite of reliable scientific testimony. *See Joiner*, 522 U.S. at 139.

Finally, the government inaccurately accuses the defense of failing to provide a citation for the proposition that call detail records (CDRs) sometimes have "lost" records, saying "[w]ithout reference to any authority," the defense "argues that call detail records are sometimes lost and that cell carriers do not provide any information on when or how often the lost CDR indicator is applied." Opp'n 14. But, the defense did provide a citation for this proposition. *See* Mot. 17 (citing John B. Minor, *Forensic Cell Site Analysis: Mobile Network Operator Evidence Integrity Maintenance Research*, 14 J. DIGIT. FORENSICS, SECURITY & L. 59, 69 (2019)). In any event, that CDRs have such lost records is not controversial: Mr. Petersohn himself admitted that he knew about "lost" call records in the testimony attached to the government's opposition.

Gov't Ex. 3 at 23 (Q. "[H]ave you ever seen call detail records where there's information omitted; for example, entries that didn't capture location data? A. I have, yes."). When Mr. Petersohn was asked if he understood why lost records happened, he said: "No, other than some of the databases may be incomplete that feed the CDR." *Id.* The point of these unexplained "lost" records is that CDR records are not the infallible "facts and data" that the government claims.

The government has not shown that Mr. Petersohn's testimony about determining the location of cell phones based on cell tower evidence is based on reliable facts or data. It should be excluded.

2. This Court should not rely on the government's unsupported, uncited claims that Mr. Petersohn's testimony would be based on "reliable scientific principles and methods."

The government argues that Mr. Petersohn's testimony will be "based on technical and other specialized knowledge, and it is the product of reliable scientific principles and methods." *See* Opp'n 15–17. Although the government mentions "physics and radio frequency engineering" in its introduction, *id.* 7, it fails to articulate how "physics and radio frequency engineering" support its claims. It does not note any other "scientific principles" or "methods." It also cites to no academic articles, news articles, industry publications, or technical specifications. This Court should not rely on the government's unsupported claims.

First, the government makes the bold claim that "[t]he geographic areas that cell sites service are known facts." *Id.* 15. The government provides no citation for this proposition, which is simply not true. The government builds on its own asserted, but untrue, "fact" to conclusorily assert that cell site data "can be reliably used to approximate the geographic vicinity of the relevant cellphone, because (1) cellphones connect to the clearest, strongest available signal, (2) the nearest cell site usually (though not always) provides the strongest signal, and (3) even when cellphones do not connect to the nearest cell site, they are very likely to connect to the second or third closest cell site, which are also physically close to the phone." *Id.* 15. On their face, these assertions are vague ("usually," but "not always," and "very likely to"); they are not data-driven, reliable statements. And they are completely unsupported by any citation to any authority. They should be rejected. *See Joiner*, 522 U.S. at 139.

Next, the government states that "3GPP protocols programed into each cell phone" "instruct cellphones to connect to the cell site that provides the strongest and clearest signal." Opp'n. 15. 3GPP is a global mobile broadband initiative. *See* 3GPP, "About 3GPP,"

https://www.3gpp.org/about-3gpp (last visited Jan. 3, 2022). But this website reflects no results for the government's assertion about the "strongest and clearest" signal. Although the website appears to have numerous papers on various topics, the government does not point to any that would support its assertion.

The government argues next that the "strength of a signal" is "strongly correlated with the distance between the cellphone and the cell site." Opp'n 15. The only citation it provides is to Mr. Petersohn's testimony, in which he said that the "power of [] radio waves will decrease with the square of the distance." Gov't Ex. 3 at 7. Mr. Petersohn did not explain how that equation related to determining the location of a cell phone and did not use the equation to show the coverage area of any particular cell site. If permitted to testify, Mr. Minor would explain that this equation is one that can be used to model coverage areas and help cell phone providers find areas that are lacking coverage. It is not an equation meant to provide a historical explanation of where a cell phone is located based on the cell tower it had connected to. Indeed, as Mr. Petersohn has testified, when a cell phone is searching for a signal it "doesn't rank cell sites or sectors based on proximity." *Id.* at 34.

In another unsupported claim, the government states that the "inference that a cellphone was near a cell site that it connected to is especially strong in New York City where cell site density is high and the functional range of each cell site is often only a few blocks." Opp'n 15. The government provides no support for this conclusion. If permitted to testify, Mr. Minor would not agree. It is not even clear if Mr. Petersohn would agree. In his testimony attached by the government, he testified that there are "[l]ots of people" in New York "[u]sing their cell phone constantly" and it is, therefore, "common" that "one site might be overloaded and the cell phone would connect with option B on the ranking list." Gov't Ex. 3 at 35. The government ignores that

Manhattan always has a high volume of traffic, and instead says that there were no "unusual events would have caused an influx of people on the dates in question such that the cell sites in Manhattan or near Piscataway, New Jersey would have been overloaded from extraordinarily high traffic." Opp'n 16. Again, such conclusory assertions cannot support expert testimony.

The government's response does not establish that Mr. Petersohn's testimony would be based on reliable scientific principles and methods.

### 3. The government fails to proffer any argument relating to the other factors and they cannot meet their burden on those factors.

The government simply ignores the other Rule 702 factors and all of the *Daubert* factors. It does not argue that Mr. Petersohn "reliably applied the principles and methods to the facts of the case." Rule 702(d). It does not argue that the method "has been or can be tested," point to any "peer-reviewed" articles, reference any "known or potential rate of error," or explain the "extent" the method is "generally accepted in the relevant community. *Daubert*, 509 U.S. at 597. That is because the government cannot meet these factors.

Instead, the government relies solely on the fact that other courts have allowed experts to testify about historical cell site location information. The government cites only two district court cases related to cell site experts in the body of its brief, which are notably seven and nine years old. Opp'n 12 (citing *United States v. Rosario*, No. 09 Cr. 415 (VEC), 2014 WL 6076364 (S.D.N.Y. Nov. 14, 2014); *United States v. Fama*, No. 12 Cr. 186 (WFK), 2012 WL 6102700 (E.D.N.Y. Dec. 10, 2012)). But just because a *type* of testimony has been admitted before is not a reason to allow it again. That is particularly true in the face of changing technology and a growing understanding of the severe limitations of historical cell site location data. Just as the

FCC changed its mind when it realized cell site data was not a reliable proxy for location,<sup>7</sup> so too should this Court.

# C. The government does not dispute Mr. Minor's expertise and he should be permitted to testify.

The government does not dispute that Mr. Minor is an expert in the field of historical cell site location data, that he has written numerous peer-reviewed articles on this topic, and conducted the only peer-reviewed study analyzing error-rates. Mr. Minor's work is focused entirely on analyzing historical cell site information data and assessing its reliability.

Instead, the government claims that Mr. Minor's testimony would be on issues "not in dispute" and that his testimony would be a "waste of time." Opp'n 19–20. These arguments are meritless. First, the government does appear to dispute Mr. Minor's opinions, by criticizing his patented validation methodology, which was published in a peer-reviewed article. The government claims inaccurately that "Mr. Minor provides no detail about what specific factors contributed" to his calculations. *Id.* 20–21. In fact, Mr. Minor's peer-reviewed article explains his analysis at length with accompanying charts and pictures. *See* Minor, *Forensic Cell Site Analysis: A Validation & Error Mitigation Methodology, supra*. The government's criticism of Mr. Minor's work is more appropriate for cross-examination.

The defense motion noted that the FCC changed its 911 regulations to rely on GPS data rather than cell site location data because cell towers are not good proxies for the location of a person. Mot. 20–21. The motion noted one story where 911 responders arrived in the wrong state after relying on tower evidence. *Id.* 20. The government accuses the defense of "misleading" and claims that the "full facts" "support the government," quoting a news article stating that the 911 call had been "bounce[d]" from one tower to another, which was the "nearest tower." Opp'n 21. The government's response misses the point. That story, and the many others that caused the FCC to stop relying on cell tower evidence, shows that cell tower data is not a reliable way to determine location. *See* Thomas J. Kirkham, *Rejecting Historical Cell Site Location Information As Unreliable Under Daubert and Rule 702*, 50 U. Tol. L. Rev. 361, 382 (2019) (collecting cases; including, one of a Florida woman who was killed after her 911 call was routed to the wrong city's emergency responders).

Second, as noted above, Mr. Minor disagrees with Mr. Petersohn on a number of topics, including:

- that Mr. Petersohn's maps are inaccurate because cell phone coverage areas do not fall into neat circles, pie slices, or boxes. A more accurate picture of cell-coverage areas would be more blob-like than the shaded areas on Mr. Petersohn's maps, with non-contiguous areas. This is especially true in places like Manhattan that have significant obstructions from concrete and glass buildings. The water surrounding Manhattan also allows cell signals to travel longer than they would over land. The coverage area would thus be much larger than what appears to be depicted in the maps provided by the government.
- Mr. Petersohn's base assumption that a phone "typically" connects to the "strongest, closest signal." Mr. Minor would testify that the analysis is more complex: phones connect to the "best quality" signal, which is not necessarily the closest or strongest.
- that Mr. Petersohn's reliance on theoretical modeling of coverage areas is not the industry standard, and that how phones work in real life does not match the theoretical models. He would testify that this is especially relevant in a dense area like Manhattan, which has a more complex coverage map than a more rural area due to buildings, people, and other obstacles.
- that Mr. Petersohn did not conduct a full validation process.
   Each of these is an appropriate and relevant rebuttal topic.

#### D. A Daubert hearing is necessary.

The government asks this Court to rely on testimony from *United States v. Scales* instead of conducting its own *Daubert* hearing. Opp'n 12 n.3; Gov't Ex. 3. This Court should not do so. First, in *Scales*, the defense did not present its own expert to rebut Mr. Petersohn's testimony. Indeed, the defense did not dispute Mr. Petersohn's formulation that a cell phone always connects to the "strongest" signal, which is in the "vicinity" of the closest cell tower. Gov't Ex. 3 at 86–88. This Court should not rely on such a one-sided presentation to determine whether Mr.

The parties disagreed with respect to the size of the "vicinity." The *Scales* court rejected Mr. Petersohn's testimony that a phone that did not connect to the closest tower would connect to another tower nearby in the "tier 1" of towers, and ordered the government to give the

Petersohn's testimony is appropriate in this case. Mr. Minor's testimony at a *Daubert* hearing will shed further light as to why Mr. Petersohn's methods are unreliable.

Additionally, the *Scales* transcript indicates that Judge Rakoff considered Mr. Petersohn's proposed testimony as applied to the facts of that case. The Court noted that the "government is offering this [location evidence]" to show the phone was in the "vicinity" of an area in New York City "as opposed to showing...[it] was in Weehawken or Plymouth." *Id.* at 86. Here, based on Mr. Petersohn's draft maps, it appears the government plans to argue the location evidence shows something much more precise than in *Scales*. Therefore, this Court should not rely on the *Scales* transcript. It should order a hearing and reach its own conclusions as to the admissibility of Mr. Petersohn's proffered testimony.

# II. The Government Has Failed To Establish the Admissibility of Expert Testimony from Dawn Hughes.

Mr. Ray's motion identified specific and fundamental flaws with the proffered opinions of Dawn Hughes, 9 including that she is unqualified to opine on the subjective mindsets of interpersonal violence perpetrators; large portions of her opinions do not rest on reliable data or result from an expert methodology; significant parts of her opinions are not helpful and do not fit the facts of this case; her proffered opinions would improperly invade the province of the jury;

defense "at least the day before trial exactly what he will now say" with regards to what cell tower a phone would likely connect to if not the closest one. Gov't Ex. 3 at 100.

Although the government characterizes Dr. Hughes as a "forensic psychologist" (Opp'n 22), Dr. Hughes has not performed a forensic evaluation of Mr. Ray or any of the alleged victims, and will not be offering an opinion regarding Mr. Ray or any of the alleged victims at trial. The government does not dispute that it has waived its opportunity to offer testimony—from Dr. Hughes or any other expert—regarding any of the alleged victims in this case. Mot. 48–49; see Scott v. JPMorgan Chase & Co., No. 13 Civ. 646 (KPF), 2014 WL 338753, at \*10 (S.D.N.Y. Jan. 30, 2014) (collecting cases for proposition that, by failing to respond to an argument, party concedes such point).

and her testimony would introduce an unacceptable risk of juror confusion and unfair prejudice to Mr. Ray. Mot. 26–49. The government's opposition does not meaningfully address these arguments or support the admissibility of Dr. Hughes's proffered opinions. Instead, the government attacks strawman arguments the defense did not put forth and relies on rulings that permitted other experts (with different qualifications) to offer different opinions in cases with entirely different factual contexts. These unavailing arguments do not satisfy the government's burden to establish the admissibility of Dr. Hughes's testimony.

# A. The data and literature upon which Dr. Hughes relies do not support the admissibility of her proffered opinions in this case.

At the time of the filing of Mr. Ray's motion, the government had not disclosed the "empirical data" or "social science literature" that (according to the government) are the bases for Dr. Hughes's opinions in this case. Mot. 27. In response to the defense's request that the government identify "the studies, data, and literature that Dr. Hughes is going to base her opinions on in this case," the government produced a list of sources Dr. Hughes relied on in another case in 2017. The government has not disclosed any other materials or sources beyond what was cited in this list and Dr. Hughes's *curriculum vitae*. For the reasons stated below, the materials the government has disclosed as the bases for Dr. Hughes's opinions do not support the admissibility of many of her proffered opinions in this case.

# B. The Government has failed to establish Dr. Hughes's qualifications to offer opinions on perpetrators of interpersonal violence.

As noted in Mr. Ray's motion, the Second Circuit has unambiguously held that just "because a witness qualifies as an expert with respect to certain matters or areas of knowledge, it by no means follows that he or she is qualified to express expert opinions as to other fields."

Mot. 28 (quoting *Nimely v. City of New York*, 414 F. 3d 381, 399 n.13 (2d Cir. 2005)).

Accordingly, even if Dr. Hughes has been permitted to offer expert testimony in other proceedings, this Court, in fulfilling its gatekeeping role under the Federal Rules of Evidence and *Daubert*, must ensure that she is qualified to testify at Mr. Ray's trial about the specific opinions the government proffers. *See Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 150 (1999).

Mr. Ray's motion, echoing Judge Garaufis's observation, argued that Dr. Hughes's curriculum vitae and prior testimony made clear that—whether or not Dr. Hughes was qualified to opine on the *victims* of interpersonal violence—she lacked the expertise and experience necessary to opine on the *perpetrators* of such violence. Mot. 28–32 (citing *United States v.* Raniere, No. 18 Cr. 204 (NGG), 2019 WL 2212639, at \*7 (E.D.N.Y. May 22, 2019)). 10 Specifically, the defense pointed out that Dr. Hughes has not studied or published any research regarding perpetrators of interpersonal violence, and she does not treat such persons in her clinical practice. Mot. 28–32. The additional materials the government recently disclosed as the basis of Dr. Hughes's opinions in this case do not change these facts. As such, Dr. Hughes is not qualified to offer opinions about perpetrators' subjective motivations, thought processes, and mental states. See, e.g., United States v. Schneider, No. 10 Cr. 29 (JRS), 2010 WL 3734055, at \*2–3 (E.D. Pa. Sept. 22, 2010) (excluding testimony from proposed expert whose "experience in the field of child sexual abusers and their victims is one-sided, as it is limited to therapeutic sessions with victims of sexual abuse," and because she did "not treat or diagnose adult abusers of children").

The government's opposition inconsistently claims both that Dr. Hughes will not testify about the subjective intentions of perpetrators and that she is expected to testify to perpetrators' "motivations." Opp'n 28. The government should not be permitted to obscure the substance of Dr. Hughes's anticipated testimony through abstract language and generalities. *See also* Mot. 38–40 (noting government's failure to properly disclose that Dr. Hughes intended to offer an opinion on so-called "grooming").

Rather than acknowledge this gap in Dr. Hughes's qualifications, the government ignores it, instead dedicating pages of its briefing to string citations and explanations of *other* cases, in which *other* experts, offering *other* opinions, have been permitted to testify. Opp'n 23–28. Nowhere in the government's response (or in its disclosure of materials on which Dr. Hughes relied) does it identify any studies or research *Dr. Hughes* has performed of perpetrators of interpersonal violence, or disclose any extensive clinical treatment of such persons. The reason for this omission is clear—Dr. Hughes does not have the requisite expertise or experience.

Indeed, rather than support the admissibility in this case of Dr. Hughes's proffered opinions regarding perpetrators of interpersonal violence, the other cases the government cites only demonstrate the ways in which Dr. Hughes is unqualified to opine on offenders. For example, the government argues that "numerous courts in this District" have permitted expert testimony on "elements of abuse and coercive control," and cites Judge Cote's recent ruling permitting Dr. Chitra Raghavan to offer expert opinion testimony regarding "coercive control" in a kidnapping trial. See Opp'n 23–26; United States v. Torres, 20 Cr. 608 (DLC) (S.D.N.Y.). But Dr. Raghavan's qualifications included performing extensive social science research into, and publishing numerous academic articles in peer-reviewed journals regarding, perpetrators of intimate partner violence, focusing on their subjective motivations and why they engaged in such behavior. See, e.g., H, Kaplenko, J. Loveland & C. Raghavan, Relationships Between Shame, Restrictiveness, Authoritativeness, and Coercive Control in Men Mandated to a Domestic Violence Offenders Program, 33 VIOLENCE AND VICTIMS 297 (2018); C. Raghavan & L. Barbaro, Patterns in Coercive Controlling Behaviors Among Men Mandated for Batterer Treatment: Denial, Minimization, and Consistency of Tactics Across Relationships, 9 PARTNER ABUSE 270 (2018); J. Loveland & C. Raghavan, Coercive Control, Physical Violence, and

Masculinity, 4 VIOLENCE AND GENDER 1 (2017). These multi-factor research initiatives utilized tools and data collection techniques that were validated and widely adopted by experts in the field. Dr. Raghavan also had personal experience examining perpetrators of interpersonal violence. See Tr. 434:12–13, United States v. Torres, 20 Cr. 608 (DLC) (S.D.N.Y. July 8, 2021), Dkt. No. 106 ("So, I worked with perpetrators of violence. I worked with sex offenders."); id. 435:12–19 (discussing teaching responsibilities training therapists to work with offenders).

In comparison, Dr. Hughes has not published any works that study or assess data relating to *perpetrators* of intimate partner violence, nor, as she has testified, does Dr. Hughes have experience treating those accused of committing abuse. *See* Gov't Expert Ltr., Ex. A at App'x B; Tr. 3745:15–17, *United States v. Raniere*, No. 18 Cr. 204 (NGG) (E.D.N.Y. June 6, 2019), Dkt. No. 780 ("Q. In your practice, do you currently treat or see anyone who has been accused of sexual assault? A. I do not. I do not treat offenders."); *id.* at 3746:6–8.

Moreover, in stark contrast to Dr. Raghavan's reliance on materials relating to the study of perpetrators, the materials cited in Dr. Hughes's CV and the references provided by the government—which, cumulatively, comprise the facts and data on which Dr. Hughes's opinions in this case are based, *see* Fed. R. Evid. 702(b)—do not reflect Dr. Hughes's familiarity with studies of abusers. The government asserts that "the literature in the field" generally "more than supports expert opinions that address how and to what ends perpetrators employ such tactics," Opp'n 26 n.9, but ignores that the government has not disclosed any such studies as the basis for *Dr. Hughes's proffered opinions in this case*. The fact that *other* experts, in *other* cases, might have been familiar with and disclosed relevant social science data and literature from the broader field has no bearing on whether *Dr. Hughes* can offer such opinions here. *Cf.* Fed. R. Evid. 703

("An expert may base an opinion on facts or data in the case that *the expert has been made* aware of or personally observed." (emphasis added)).

The government also quotes at length and cites rulings from cases in which defendants challenged the admissibility of "coercive control" expert testimony writ large—an argument Mr. Ray specifically did not advance. Opp'n 24–26. But even these inapposite rulings—none of which address the argument that Mr. Ray has advanced, *i.e.*, that Dr. Hughes is unqualified to opine on the subjective mindsets of interpersonal violence perpetrators—underscore the inadmissibility of Dr. Hughes's opinions here. For example, the government relies heavily on Judge Nathan's *Daubert* ruling in the *Maxwell* matter (Opp'n 24–25), but in that case, the government's expert disclosed her reliance on and discussed numerous peer-reviewed studies addressing "the tactics, modus operandi, skill, [and] manipulative techniques" used by perpetrators of sexual abuse of minors, and still did not offer opinions on the motivations or subjective mindsets of interpersonal violence perpetrators. Gov't Ex. 4 at 40:19–41:14.

Thus, the fact that other courts, in other circumstances, have permitted other experts to offer opinion testimony about "coercive control" in no way supports the government's position that Dr. Hughes is qualified to testify, in this case, about the subjective mindsets and intent of abusers. Because Dr. Hughes is not so qualified, these opinions must be precluded from the upcoming trial.

- C. The government has failed to establish that Dr. Hughes's opinions are based on sufficient facts or data, are the product of reliable principles and methods, and satisfy Rules 702 and 703.
  - 1. The government has failed to establish that unverified anecdotes from Dr. Hughes's clinical clients are the type of facts and data relied upon by experts in the field of psychological research.

Mr. Ray's motion argued that Dr. Hughes's opinions that are based on her clinical clients' unverified anecdotes must be excluded because she applies no expertise or reliable methodology to these hearsay statements. Mot. 33–38; see Schneider, 2010 WL 3734055, at \*4 (excluding expert opinion as unreliable when expert testified "that when her clinical patients tell her they have been subjected to sexual abuse, she unequivocally believes them"). Rather, the government intends to have Dr. Hughes repeat these unproven anecdotes to the jury, depriving Mr. Ray an opportunity to confront and cross-examine the declarants. Cf. United States v. Gonyer, No. 12 Cr. 21 (JAW), 2012 WL 3043020, at \*2–3 (D. Me. July 24, 2012) (excluding expert testimony because expert's "inability to cite an error rate for false positives" rendered her "testimony virtually impregnable for purposes of cross-examination."). The fact that Dr. Hughes hears such anecdotes from her clients as part of her professional "experience" does not mean she can merely recite such statements to the jury or that they form a reliable basis on which her opinions may rest. "All experts testify to some extent based on experience," but "[t]here must be some verifiable way of demonstrating the validity" of the expert's opinion. Luitpold Pharm., Inc. v. Ed. Geistlich Sohne A.G. Fur Chemische Industrie, No. 11 Civ. 681 (KBF), 2015 WL 5459662, at \*3 (S.D.N.Y. Sept. 16, 2015).

Instead of responding to the specific argument the defense advanced, the government rehashes and responds to different arguments made by other defendants in unrelated proceedings. *See* Opp'n 26–28. For example, Mr. Ray does not argue that all expert opinion testimony

regarding "coercive control" is impermissible because it is not based on studies or empirical data and thus cannot be assessed for reliability. Opp'n 27. Rather, Mr. Ray's argument is that anecdotes from Dr. Hughes's clinical clients, which are not subject to any expertise or reliable methodology, are an unreliable basis for an expert opinion and are not the kinds of facts or data upon which experts in the field would reasonably rely. *See* Fed. R. Evid. 703; *United States v. Dukagjini*, 326 F.3d 45, 54 (2d Cir. 2003) (ruling testimony inadmissible where expert was repeating hearsay evidence "without applying any expertise"); *see also United States v. Mejia*, 545 F.3d 179, 197 (2d Cir. 2008).

Moreover, the defense does not seek to subject all qualitative social science to inapplicable "hard science methodologies." Opp'n 27. The client anecdotes that form the basis of Dr. Hughes's opinions do not even meet the standards for social science research that Dr. Hughes herself applies in her research. Compare the unstructured, untested client anecdotes (which Dr. Hughes admittedly does not interrogate), to the datasets that form the basis of Dr. Hughes's own published research in her field. In her article entitled, "Abuse Characteristics Among Childhood Sexual Abuse Survivors in Therapy: A Gender Comparison," Dr. Hughes and her co-authors collected data from hundreds of participants by administering "a structured clinical interview with established reliability . . . based on areas identified in previous [childhood sexual abuse] literature as relevant"; applied correlation coefficients "to assess reliability" for certain variables; and applied statistical adjustments to control for errors, before drawing conclusions from the data. See 27 CHILD ABUSE & NEGLECT 1005, 1007-08 (1998). The use of these standard social science methodologies and tools is what (purportedly) makes the research in the field of interpersonal violence and coercive control reliable, and is what the government has pointed to in other cases in support of its admissibility.

Far from an improper application of "hard science methodologies" to social science research, Rule 703 requires expert witnesses to form opinions based only on "those kinds of facts or data" that "experts in the particular field would reasonably rely upon." Fed. R. Evid. 703. Unlike the other witnesses the government highlights, Dr. Hughes's opinions based on unreliable, untested anecdotes, not sound, rigorously evaluated social science data, and it should not be permitted. Cf., e.g., Raghavan et al., Coercive Control, Physical Violence, and Masculinity, supra (analyzing data from hundreds of participants, applying multiple validated social science instruments, and subjecting results to multiple regression and other statistical analyses "to assess the role of coercive control in mediating the relationship between dominance (restrictiveness) and physical violence"); Raghavan et al., Shame, Restrictiveness, Authoritativeness, and Coercive Control, supra (collecting data from more than 130 participants in structured qualitative interviews, subjecting collected data to validated social science instruments, and employing correlational and qualitative research tools to test various "coercive control" hypotheses). Even in the Maxwell Daubert hearing, the government's expert testified that her opinions were not based on her (unverified) clinical client's assertions, but on peerreviewed social science literature. See Gov't Ex. 4 at 40:19–41:14. The government provides no authority here for the proposition that its expert may transmit to the jury unverified, unevaluated, and untested hearsay anecdotes from unavailable clinical clients.

Permitting Dr. Hughes to repeat unverified client anecdotes to the jury would also violate Mr. Ray's Sixth Amendment confrontation rights and Fifth Amendment due process rights because Dr. Hughes would inappropriately recount for the jury hearsay from unidentified clients whom Mr. Ray will not be able to cross-examine at trial. *See Dukagjini*, 326 F.3d at 58 (holding

that such improper testimony in a criminal trial violates Rule 703 and the Confrontation Clause). The government offers no response to this argument. *See Scott*, 2014 WL 338753, at \*10.

Because improper hearsay is a crucial basis for Dr. Hughes's proffered expert opinions, this testimony should be excluded at trial. To the extent Dr. Hughes is permitted to testify, she should be precluded from relying on or transmitting inadmissible hearsay statements to the jury.

# 2. The government has failed to establish the reliability of Dr. Hughes's undisclosed opinions on "grooming."

Beyond not properly disclosing Dr. Hughes's opinion about so-called "grooming," the government has not attempted to establish the reliability of Dr. Hughes's opinion on this subject. The court in *Raniere* found that the government had not disclosed "any studies establishing the reliability" of Dr. Hughes's opinions about grooming, and had not established that "Dr. Hughes's opinion about grooming techniques [were] reliable under the *Daubert* standard." *Raniere*, 2019 WL 2212639, at \*7. The same is true here. Neither Dr. Hughes's CV nor the list of references that the government provided identify any studies establishing the reliability of this proffered opinion. *See Gonyer*, 2012 WL 3043020, at \*2 (excluding "expert on sexual predator grooming techniques" because proffered opinions were not supported by "scientific research or data").

Nor has the government identified any research or data supporting the specific opinion Dr. Hughes intends to offer here, namely that so-called "grooming" can occur in fully formed, high-achieving adults, as alleged in this case. *See* Fed. R. Evid. 702 (requiring expert opinion to be "based on sufficient facts or data" and "the product of reliable principles and methods"); *Joiner*, 522 U.S. at 146. Where, as here, "an expert opinion is based on data, a methodology, or studies that are simply inadequate to support the conclusions reached . . . Rule 702 mandate[s] the exclusion of that unreliable opinion testimony." *Amorgianos v. Nat'l R.R. Passenger Corp.*, 303 F.3d 256, 266 (2d Cir. 2002).

Because the government has not identified reliable facts and data that support the "grooming" opinions Dr. Hughes proffers in this case, the Court cannot admit such testimony based solely on Dr. Hughes's say-so. *See, e.g., Realtime Data, LLC v. Morgan Stanley*, 875 F. Supp. 2d 276, 285 (S.D.N.Y. 2012) ("[A] court should not consider mere *ipse dixit* of an expert—that is, conclusory statements without analytical basis.").

# D. The government has failed to establish that Dr. Hughes's proffered testimony complies with due process and Rule 704(b).

Even if Dr. Hughes's proffered testimony satisfied the standards of Rule 702 and *Daubert*, it should still be precluded because, as discussed in Mr. Ray's motion, it seeks to improperly bolster the credibility of government fact witnesses. Mot. 40–43. By proffering an expert witness who will testify to how all victims of interpersonal violence purportedly feel or act, echoing the factual narratives from government witnesses, Dr. Hughes will serve as a summation prosecution witness to bolster the fact witness testimony and effectively instruct the jury as to whether the elements of certain charged offenses have been proven. The government concedes as much, stating that "Dr. Hughes's testimony . . . will *corroborate* and contextualize witness' accounts of their own behavior and responses to the defendant's actions." Opp'n 32 (emphasis added). Such testimony is improper and must be excluded. *See Dukagjini*, 326 F.3d at 55 (finding error where expert witness "acted at times as a summary prosecution witness[, with] the effect [of] . . . bolstering . . . the testimony" of other witnesses and "impinging upon the exclusive function of the jury"); *Nimely*, 414 F.3d at 398.

Rule 704(b) similarly prohibits expert witnesses from offering "an opinion about whether the defendant did or did not have a mental state or condition that constitutes an element of the crime charged." Fed. R. Evid. 704(b). This is precisely what Dr. Hughes intends to do. By testifying that certain actions (including "threats and the imposition of negative consequences for

non-compliance") are "common" in all "victimization situations," and that "the function of all these abusive behaviors is to indoctrinate victims," Dr. Hughes will effectively convey to the jury the inference that Mr. Ray intentionally "indoctrinated" his victims through the use of actual or threatened force, violence, or fear. This is improper under Rule 704(b). *See, e.g., United States v. Scop*, 846 F.2d 135, 140 (2d Cir. 1988) (expert's use of terms "manipulation" and "fraud" conveyed legal conclusions and should have been excluded); *Hugh v. Jacobs*, 961 F.2d 359, 363 (2d Cir. 1992) (expert's use of term "deadly physical force" conveyed legal conclusion and should have been excluded).

E. The government has failed to establish that Dr. Hughes's proffered opinions fit the facts of this case or that the minimal helpfulness of such opinions are not outweighed by the risks of undue prejudice and juror confusion.

Dr. Hughes's experience and familiarity with sexual abuse victims and, in particular, victims of systematic sexual abuse of children and minors, constitutes a significant portion of the basis for Dr. Hughes's opinions about "the common elements of abuse and coercive control in victimization situations." Gov't Expert Ltr., Ex. A at 3. But this case does not involve allegations of rape, sexual assault, or sexual violence. The government concedes as much. Opp'n 31–32 (arguing only that this case "involves interpersonal violence, including assault, grooming, and coercive dynamics"). Nor does this case involve allegations of sexual abuse of minors. *Id.* 32 (conceding this case does not involve child sex abuse or molestation). Thus, testimony about such topics would not be "helpful" to the jury because it does not "fit" the facts or relate to any issue in the case. *Daubert*, 509 U.S. at 591. Given the undeniable and unfair prejudice its admission would cause Mr. Ray (Mot. 46–48), this testimony should be excluded. *See id.*; Fed. R. Evid. 702, 403.

In particular, it is highly likely that the jury will be misled into thinking that this case involves the alleged "grooming" and abuse of minors, despite the fact that every alleged victim in this case was and is an adult. Such juror confusion and unfair prejudice will be exacerbated by the government's incantation that certain of the alleged victims were "young" or "college students" when they first met Mr. Ray. *See*, *e.g.*, Tr. 17:6–8, *United States v. Ray*, No. 20 Cr. 110 (LJL) (S.D.N.Y. Mar. 2, 2020) (government assertion that "the defendant targeted a group of college students who were his daughter's roommates"); *id.* 17:14 (claiming that Mr. Ray "abuse[d] these young people"); *id.* 18:17–18 (referring to complainants as "college students and teenagers"); *id.* 19:22–23 (alleging a "cycle of abuse of these young victims"); *id.* 27:12 (referring to an alleged victim as "young enough to be [Mr. Ray's] daughter").

Under *Daubert*, the trial court "must ensure that the proposed expert testimony is 'relevant to the task at hand,' *i.e.*, that it logically advances a material aspect of the proposing party's case." *Daubert v. Merrell Dow Pharms., Inc.*, 43 F.3d 1311, 1315 (9th Cir. 1995) ("*Daubert IP*") (quoting *Daubert*, 509 U.S. at 597). It is this second prong of the *Daubert* analysis that the Supreme Court referred to as "fit." 509 U.S. at 591. "'Fit' is not always obvious," and the validity of expert testimony for one purpose does not necessarily ensure validity for other purposes. *Id.* This distinction is a difficult one for juries to comprehend. For this reason, the Supreme Court (quoting Judge Weinstein) has observed that "[e]xpert evidence can be both powerful and quite misleading because of the difficulty in evaluating it." *Id.* at 595. Thus, the trial court must carefully analyze whether proffered expert testimony fits the facts of the case and exclude such evidence unless it is convinced that it speaks directly to an issue in dispute in the case and that it will not mislead the jury. *Id.* at 591. The party offering the expert testimony has the burden of demonstrating by a preponderance of the evidence that the testimony

"fits" under *Daubert*'s second prong, as a precondition to its admissibility. *See Boca Raton Cmty. Hosp., Inc. v. Tenet Health Care Corp.*, 582 F.3d 1227, 1232 (11th Cir. 2009); *Bitler v. A.O. Smith Corp.*, 400 F.3d 1227, 1238 (10th Cir. 2005). Other than the government's conclusory assertion that the "fit" between Dr. Hughes's testimony about sexual assault and the sexual abuse of children and this case (which involves neither sexual assault nor the sexual abuse of children) is "apparent" (Opp'n 31–32), the government has entirely failed to carry this burden.

Dr. Hughes's opinion about "grooming" similarly does not fit the facts of this case because, according to Dr. Hughes herself, "grooming" is the use of "nonviolent techniques that a child offender would use in order to gain compliance of a child victim and also to assure nondisclosure of the abuse." Tr. 3919:8–10 (emphasis added), *United States v. Kelly*, No. 19 Cr. 286 (AMD) (E.D.N.Y. Sept. 17, 2021), Dkt. No. 250. This is consistent with the opinions offered by the expert witnesses in the other cases to which the government points. For example, in the Maxwell proceeding, the government's expert testified that "grooming" refers to actions taken by "offenders in the course of deceiving the child, building a relationship of trust, and then eventually sexually abusing the child." Gov't Ex. 4 at 30:4–9 (emphasis added); id. 32:11–17 (testifying about "the strategies that are utilized, tactics, modus operandi in order to build that relationship within the context of childhood sexual abuse, the function and end result of that is to create a relationship or attachment and connection between the perpetrator and the child, whereby the child trusts and becomes dependent upon the perpetrator" (emphasis added)). Again, however, there are no allegations of sexual abuse of minors in this matter, because the purported victims in this case were all high-achieving college-age adults or older. Dr. Hughes's testimony about sexual assault, sexual violence, child sexual abuse, and other acts and circumstances not

alleged here thus does not "fit" the facts of this case, and will not be helpful to the jury. *See Daubert*, 509 U.S. at 591; Fed. R. Evid. 702.

The limited "helpfulness" of Dr. Hughes's testimony about sexual assault, child molestation, and other child sexual abuse is substantially outweighed by the risk that it will confuse the issues, mislead the jury, and unfairly prejudice Mr. Ray. Dr. Hughes's testimony about sexual assault and well-known sexual abuse scandals wholly unrelated to this case (such in the Boy Scouts of America, USA Gymnastics, and the Catholic Church), will improperly suggest to the jury that Mr. Ray is associated with such acts because, according to Dr. Hughes, they all follow "common" patterns. Although the government asserts that it does not "anticipate" any testimony about child sexual abuse, the Court should not invite the substantial risk of unfair prejudice, confusing the issues, and misleading the jury that would inevitably arise if Dr. Hughes were permitted to offer such testimony at trial. It should be precluded. *See Daubert*, 509 U.S. at 591; Fed. R. Evid. 702; Fed R. Evid. 403.

### III. The Government Has Failed To Establish the Admissibility of Expert Testimony from Richard Pleus.

In its motion, the defense argued that Dr. Pleus should not be able to testify about Mr. Ray's medical diagnoses, that his broad conclusion that Mr. Ray has "not suffered any health impairment from intentional poisoning" was not supported by sufficient facts or data, and that his testimony is only relevant to improperly bolster the credibility of the government's witnesses. Mot. 50–52.

In response, the government first argues it is irrelevant that Dr. Pleus is not a medical doctor because "courts across the country" permit toxicologists to "compare known values from medical records to medical literature and opine on potential health impairments." Opp'n 34. This argument ignores that the government is planning to have Dr. Pleus testify not only about

"known values from medical" records, but also about the *medical diagnoses* made by other doctors and his conclusion that Mr. Ray had never been intentionally poisoned. Dr. Pleus is not qualified to render medical conclusions about Mr. Ray's health.

None of the three civil cases cited by the government support a toxicologist testifying in the manner the government proposes here. Indeed, in one of the cases cited by the government, the toxicologist was deemed "unqualified to diagnose the medical causation of Plaintiff's specific injuries." *Ford v. Carnival Corp.*, No. 08 Civ. 23451 (ASG), 2010 WL 9116184, at \*2 (S.D. Fla. Mar. 4, 2010) ("Dr. Hearn's specific opinion that 'Mrs. Joann Ford's respiratory illness was not caused or aggravated by her alleged exposure to chlorine fumes,' must be excluded.").

Neither of the other two cited cases involved a toxicologist testifying about a medical doctors' diagnosis. In *Hopkins v. Dow Corning Corp.*, 33 F.3d 1116 (9th Cir. 1994), a toxicologist testified about the "immunological effects of silicone in the human body" in a case about the "causal connection" between silicone implants and a disease. *Id.* at 1124 (noting that the plaintiff called two medical doctors, including one who examined her). While in *Ashley v. City of Bridgeport*, 473 F. Supp. 3d 41, 47 (D. Conn. 2020), the toxicologist did not offer "an expert opinion about the condition of the plaintiff" but about "the consistency of certain behavior . . . with the generally understood effects on a person of the drugs shown in the toxicology results."

Second, the government argues it is irrelevant that Dr. Pleus intends to opine broadly that Mr. Ray "has not suffered any health impairment from intentional poisoning" based solely on a review of a smattering of medical records, and without actually meeting or examining Mr. Ray, by pointing to two cases in which medical doctors testified without reviewing the "entire medical

history" of the person. Opp'n 36 (citing *Crowder v. Fuddruckers*, No. 04 Civ. 481 (AK), 2006 WL 8449984 (D.D.C. Apr. 18, 2006); *Hewitt v. Metro-N. Commuter R.R.*, 244 F. Supp. 3d 379, 388 (S.D.N.Y. 2017)). Neither case is apposite. In *Crowder* – unlike here – the testifying doctor "conducted an Independent Medical Evaluation ('IME') of the Plaintiff" in connection with a slip-and-fall case. 2006 WL 8449984, at \*1. Dr. Pleus has not examined Mr. Ray, nor would he be qualified to do so. In *Hewitt*, an ergonomist was permitted to testify about the "ergonomic risk factors" at a workplace after having reviewed video of the workplace, and a medical doctor was permitted to rely on the ergonomist's report. 244 F. Supp. 3d at 388. Both cases involved discrete incidents. Neither is like what the government proposes here.

Finally, the government argues that Dr. Pleus is expected to testify about a "subject in which he previously has been qualified as an expert." Opp'n 35 (citing *Rianda v. Olin Corp.*, No. 04 Civ. 2668 (RMW), 2006 WL 1525694, at \*2 (N.D. Cal. May 30, 2006)). The government does not explain why it views *Rianda* as similar to Mr. Ray's case, and it does not appear to be. In *Rianda*, Dr. Pleus submitted a declaration relating to whether a "perchlorate" chemical released by a manufacturing company into the water supply caused plaintiffs' thyroid conditions," 2006 WL 1525694, at \*2. The court cited the declaration at the summary judgment stage, noting that the "[p]laintiffs have produced nothing to refute defendants' assertions or to support their claims." *Id*. There is no indication that the court "qualified" Dr. Pleus as an expert or that Dr. Pleus testified as one.

Because none of the government's responses support admitting Dr. Pleus's broad testimony, it should be excluded.<sup>11</sup>

In his motion, Mr. Ray reserved hearsay and confrontation clause objections to the introduction of his medical records. Mot. 49 n.9. This was not a "throwaway," as the government complains, Opp'n 36 n.11, but a preview of a future objection that the defense

#### IV. Dr. Andre Lugo's Testimony Should Be Admitted.

The proposed defense expert, Dr. Lugo, should be permitted to testify in rebuttal to Dr. Pleus on the subject of Mr. Ray's mercury contamination. Dr. Lugo's conclusion that Mr. Ray was "exposed to mercury" is different from Dr. Pleus's conclusion that "there are no biomarkers in [Mr. Ray's] Medical Records to indicate Lawrence Ray was exposed to toxins or toxicants – including mercury . . . at doses that would cause the health effects reported by Mr. Ray." Gov't Expert Ltr., Ex. A at 5. The government complains that Dr. Lugo proposes to "testify about subjects not at issue in this case." Opp'n 40. This complaint is surprising as the government also argues that Dr. Pleus's testimony will provide "direct evidence of the charged crime." *Id.* 36. The government cannot have it both ways. It intends to put whether Mr. Ray was poisoned at issue at the trial. The defense, therefore, has a right to rebut the government's expert.

# V. The Government Has Failed To Establish the Admissibility of Expert Testimony from Stephen Flatley.

The government intends to call Stephen Flatley as a lay witness to testify about his analysis of the forensic data extracted from the electronic devices seized in this case, yet "is prepared to offer" him as an expert, if the court deems that it is necessary. Opp'n 42. While the government believes that its seriatim disclosures regarding Agent Flatley and his testimony "more than satisf[y]" the government's obligations, its notice remains "woefully deficient" under *Daubert* and Rule 702. Mot. 52. While Flatley may be qualified to testify as an expert, the

did not want to inadvertently waive. In response, the government cites two civil district court cases in which the plaintiffs put their medical conditions at issue, which are distinct from this one and are not binding on this Court. Opp'n 36 n.11 (citing *Perpall v. Pavetek Corp.*, No. 12 Civ. 336 (PKC), 2017 WL 1155764, at \*8 (E.D.N.Y. Mar. 27, 2017) (noting the "preference" for the admission of the medical records when the plaintiff was claiming his injuries were not the result of a previous condition); *Ortiz v. City of New York*, No. 15 Civ. 2206 (DLC), 2017 WL 5613735, at \*1 (S.D.N.Y. Nov. 21, 2017) (in case about a wrongful arrest and police assault, court allowed admission of plaintiff's medical records)).

government has not provided the requisite summary of his testimony, and explicitly denied that Agent Flatley will offer any opinions. *Id.* Mr. Ray's motion simply asks the Court to hold the government to its word, and preclude Agent Flatley from testifying as an expert, or from offering what is, in fact, expert testimony when he is purported to be a lay witness. *Id.* 52–53.

The government has failed to provide the substantive pretrial disclosures required by Rule 702 and Federal Rule of Criminal Procedure 16(a)(1)(g) for a party offering a witness as an expert. By the government's own summary, it has provided "a list identifying the devices about which Flatley is expected to testify and a list including examples of Flatley's prior testimony," and, in response to requests from Mr. Ray for additional information regarding Agent Flatley's testimony, the government provided "procedures and programs used to extract the digital evidence." Opp'n 41. In no place has the government indicated what Agent Flatley might say about the 50 devices that he is expected to testify to (including those that are indicated as "inaccessible"). See Gov't Expert Ltr., Ex. A at App'x A. And nowhere has the government described the types of retrieval done in this case, the procedures that were followed to conduct any analysis, or the results of that analysis—just that Agent Flatley will testify to those topics.

Agent Flatley's testimony in other cases has historically constituted "scientific, technical, or other specialized knowledge" within the scope of Rule 702. Fed. R. Evid. 702. In all four of the examples cited by the government where Agent Flatley offered testimony on "similar topics," he was offered as an expert. <sup>12</sup> Opp'n 42. For example, in *United States v. Hirst*, 15 Cr. 643

Agent Flatley may not have testified as an expert in *United States v. Maxwell*, 20 Cr. 330 (AJN), as the government claims. But in *Maxwell*, unlike here, Agent Flatley was noticed as an expert. *See* Mot. to Preclude Law Enforcement Witnesses from Offering Expert Opinion Testimony, Dkt No. 393 at 1 ("The government has endorsed and disclosed only two witnesses who may offer expert opinion testimony under Rule of Evidence 702—Dr. Lisa Rocchio and Stephen Flatley."). Mr. Ray does not take a position as to how Agent Flatley

(PKC), even though the government claims that Agent Flatley's testimony consisted of "describing metadata" (Opp'n 41), the purpose of his testimony was clearly to elicit his opinion that the FBI does not rely on metadata alone to establish a document's creation date. *See* Tr. 935–36; 952:5–7, Dkt No. 316, Ex. K. After "describing metadata" by way of background, the government asked Agent Flatley, "in your opinion, can you conclude that Government's Exhibits 509A through D were created on the dates reflected in the metadata in those documents?" Agent Flatley responded, "I cannot." *Id.* at 952:5–7.

Similarly, in *United States v. Healey*, 11 Cr. 132 (SAS), Agent Flatley testified that the "presence" of "certain system files" indicated when a hard drive was accessed, and later became the basis of a motion for a new trial. *See* Tr. 564:1–13, Ex. L. At trial, the defense argued that "it was the government's obligation to tell us what their expert is going to talk about." Judge Scheindlin agreed. *Id.* at 584:18–20. Even though Agent Flatley was qualified as an expert in *Healey*, like here, the government noticed him "out of an abundance of caution." Dkt. No. 36-1, *Healey* Gov. Expert Ltr, Ex. M at 1. The *Healey* notice, however, is much more detailed regarding Agent Flatley's testimony than the notice issued here—it identifies the three devices that Agent Flatley would testify to and explains the basis for Agent Flatley's testimony that metadata indicates that the defendant deleted, viewed, and accessed videos and images, and that data indicates that certain drives belonged to the defendant even though they were "inaccessible." *Id.* at 2. If the government wanted to qualify Agent Flatley as an expert in this case, the government was required to make similarly detailed disclosures here.

testified in that case, because the government has not made that transcript available and the transcript is not yet publicly accessible.

Moreover, in the cases cited by the government, the witness was permitted to testify as a lay witness regarding the forensic data because the witness was not offering an "opinion based on the application of specialized knowledge to a particular set of facts; nor did his testimony turn on or require a technical understanding of the programming or internal mechanics of the technology." *United States v. Marsh*, 568 F. App'x 15, 17 (2d Cir. 2014). Likewise, here, Agent Flatley may testify about what the document properties or metadata properties are. Opp'n 41. But he cannot testify about what such properties demonstrate (*i.e.*, what Mr. Ray viewed, accessed, downloaded, created, owned), because that is the province of an expert. Mot. 53.

#### **CONCLUSION**

For these reasons and those stated in Mr. Ray's motion, the Court should exclude the testimony of the government's proffered expert witnesses or, in the alternative, convene a *Daubert* hearing at which the government must establish the admissibility of each of its proffered expert opinions. To the extent that the government's experts are permitted to testify, the Court should permit the expert testimony of the defense rebuttal witnesses.

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Respectfully submitted,

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